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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
(MBHB Case No. 01-185-A)

In the Application of:

Brent Townshend and Jared Bernstein

Filing Date: March 1, 2002

Serial No.: 10/087,651

For: A SYSTEM FOR MEASURING INTELLIGIBILITY  
OF SPOKEN LANGUAGE

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) Examiner: Michael N. Opsasnick  
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) Group Art Unit: 2626  
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Sir:

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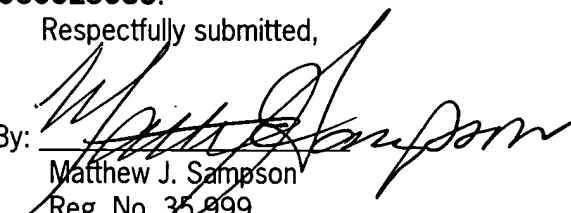
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Respectfully submitted,

Date: January 28, 2008

By:

  
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## **II. RELATED APPEALS AND INTERFERENCES**

Applicants are not aware of any related appeals, interferences, or judicial proceedings.

## **III. STATUS OF THE CLAIMS**

Claims 1, 2, 4-24, 26, 28, 29, 32-38, and 40-45 stand rejected. Claims 3, 25, 27, 30, 31, and 39 are canceled. Claims 1, 2, 4-24, 26, 28, 29, 32-38, and 40-45 are appealed.

## **IV. REPLY TO THE EXAMINER'S ANSWER**

The claimed invention pertains to measuring the intelligibility of spoken language. Intelligibility is the degree to which others can understand a person's speech. Applicants' Specification, p. 2, lines 12-13. The invention measures intelligibility by having a speaker verbalize words and a human listener repeat aloud what is heard. The listener's recitation of what is heard is transcribed, and that transcription is compared to the material originally spoken to determine the intelligibility of the speaker.

As noted in the Appeal Brief, because the intelligibility of a speaker is based on a listener's perception of the speaker's speech, both the speaker and the listener (i.e., at least two people) are used to evaluate intelligibility. Intelligibility is a term of art that is well-understood by persons of ordinary skill. See e.g., Applicants' Specification, p. 2, line 20 to p. 3, line 2. Intelligibility, as claimed, is distinct from "speech recognition," or a computer's understanding of speech, which is the focus of the cited art. Though the claimed system

utilizes a computer-based system to measure intelligibility, this measurement is based on the input from the human listener.

None of the cited references teach a measurement of intelligibility. In fact, the Examiner parses the claim elements in such a way that only certain parts of a given claim element can be found in any one reference. Furthermore, even the combination proposed by the Examiner does not result in a system that measures intelligibility. Finally, the Examiner improperly uses the claims as a roadmap for finding the elements—indeed, mere pieces of the elements—in the prior art.<sup>1</sup>

#### **A. The Cited References Lack Basic Claim Elements**

##### *1. No Cited Reference Shows or Suggests Intelligibility Measurement*

Every claim recites “intelligibility,” and none of the cited references even mentions intelligibility, much less teaches a system that measures intelligibility. The Examiner points to three portions of the Rtischev reference in support of his position that the reference teaches measuring intelligibility: Figure 3; col. 3, lines 43-47; and col. 6, lines 54-67. However, Figure 3 depicts the training mode and the recognition mode of a language instruction process utilizing speech recognition. Rtischev, col. 5, lines 56-63; see also Appeal Brief, p. 10. The other two portions, col. 3, lines 43-47 and col. 6, lines 54-67, deal with the speech recognition system recognizing reading errors and responding to those errors. Thus, each of these portions is simply addressing speech recognition or the accuracy of speech recognition and has nothing to do with intelligibility. Rtischev is silent

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<sup>1</sup> The Applicants respectfully present this reply to respond some of the points raised in the Examiner’s Answer. However, this reply is a supplement to, not a substitute for, Applicants’ Appeal Brief. Applicants continue to assert the arguments presented in full in the Appeal Brief.

as to a human listener repeating aloud what is said by the speaker to enable the system to determine the degree to which others can understand the speaker's speech, *i.e.*, intelligibility. The Examiner fails to cite anything from any other reference in support of this point. Therefore, even if the cited references are combined as suggested by the Examiner, they still fail to suggest, let alone teach, a system to measure intelligibility.

## 2. *The Examiner Improperly Parses Claim Elements*

The Examiner parses the claim elements in such a way that only certain parts of a given claim element, not the entire claim element, is found in any one reference. For example, all of the independent claims include "a listener who hears a speaker speaking items and then repeats aloud what is heard." See, element (i), identified in Appeal Brief, p. 6. To meet this element, the Examiner breaks it up into three discrete parts and cites Rtischev for "a speaker speaking items" (Examiner's Answer, p. 9), Kahn for "a listener who hears" (Examiner's Answer, p. 11), and Baker for "and then repeats aloud what is heard." Examiner's Answer, p. 13.

The claims, however, recite these parts in a context that calls for interaction among them. In particular, element (i) recites a human listener and a speaker, where the listener hears the speaker and repeats out loud what is heard. These interactions are necessary for a determination of the intelligibility of the speaker. The references do not show, or even suggest, these specific interactions and indeed cannot, as no reference actually includes every part of this claim element. By parsing the element in this manner, the Examiner has completely ignored the recited interactions between the parts of the claim element. The recited interactions are themselves part of the claim element, which the Examiner has not

shown to exist in the references. Without demonstrating that the entirety of the element (i) is disclosed, the Examiner's rejection cannot stand.

There are similar problems with the Examiner's treatment of other claim elements. Specifically, elements (ii) ("automatically preparing a transcription . . .") and (iii) ("comparing the transcription . . .") have been parsed in a way that the elements are not met, notwithstanding the Examiner's attempt to use two, or even three, references to show a single claim element. As it did with element (i), this parsing ignores the significance of recited interactions in the elements, and thus, the Examiner's analysis is deficient.

As another example of improper parsing, the Examiner extracts a single word out of three different claim elements and uses Baker, a third reference, for the sole purpose of covering that one word. Each of the claims recites a listener who repeats aloud what is heard. According to his Answer, the Examiner relies on Baker to meet the "aloud" parts of elements (i), (ii), and (ii). See Examiner's Answer, p. 12-13. Although the user in Baker certainly speaks out loud, there is no listener repeating aloud what is heard. Thus, as explained above, the Examiner's reading ignores the recited interactions between the parts of the claim elements

#### **B. The Examiner Uses Improper Hindsight To Combine References**

Furthermore, the Examiner improperly uses the claims as a roadmap for mining the teaching of the references to find the elements of the claims. As detailed in the preceding section, the Examiner first presented the claims and then sought to identify parts of the claim elements in the cited references, all the while ignoring the linkages between the various parts of each element. By using the invention as a roadmap to find its prior art

components, the Examiner impermissibly imports hindsight into the obviousness determination.

The teachings of the cited references do not even support the combination offered by the Examiner. Indeed, the two passages cited by the Examiner as supposedly providing motivation for the combination completely lack any suggestion that would lead to the claims. Examiner's Answer, p. 14. Kahn, at col. 1, lines 17-26, merely discusses the time that it takes for a user to train a speech recognition program. It would not be appropriate to combine Kahn (a listener) with Rtischev (a speaker), as Rtischev teaches away from the participation of a human listener. Interposing a human listener between the Rtischev user and the Rtischev speech recognition system would only impede the language learning process of the user by separating the user's speech from the system. Additionally, though Baker, at col. 1, lines 13-20, describes a general desire for speech recognition technology, Baker also does not provide any motivation to combine it with Rtischev or Kahn. Neither passage explains how the references could, would, or should be combined with each other to form an intelligibility measurement system.

## V. CONCLUSION

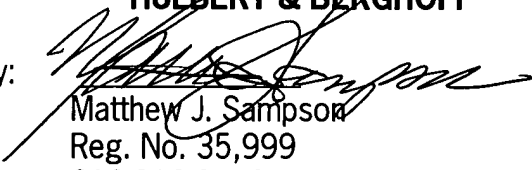
The Examiner has not and cannot make a *prima facie* case of obviousness. For the foregoing reasons, as well as those discussed in the Appeal Brief, Applicants have demonstrated that the rejections are in error as a matter of law. Applicants therefore request allowance of all pending claims in this application.

Respectfully submitted,

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Dated: January 28, 2008

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